IN THECLAIMS

Claims 1-26 (Canceled)

27. (Currently Amended) A method of determining a level of fructosamine oxidase activity in a sample comprising measuring the conversion of a substrate to a product catalyzed by fructosamine oxidase, wherein a superoxide scavenging mechanism is disabled in said method.

28. (Original) The method of claim 27 wherein the conversion is measured by determining a level of superoxide reaction product.

29. (Original) The method of claim 27 wherein the conversion is measured by determining a level of oxygen free radical product.

30. (Canceled)

31. (Previously Presented) The method of claim 27 wherein a superoxide scavenging mechanism is disabled prior to exposure to a substrate.

32. (Previously Presented) The method of claim 31 wherein the substrate is glycated bovine serum albumin.

33. (Original) The method of claim 32 wherein the glycated bovine serum albumin is modified to eliminate copper chelating activity.

34. (Original) The method of claim 27 wherein measurements are made at a pH of 7 to 8.

35. (Original) The method of claim 27 wherein measurements are made at a pH greater than 7.5.

36. (Canceled)

37. (Previously presented) The method of claim 27 wherein the measurement of conversion of a substrate to a product by fructosamine oxidase is conducted on a sample from a human subject.

38. (Previously presented) The method of claim 27 wherein the sample is selected from the group consisting of blood, plasma, and serum.

39. (Previously presented) The method of claim 37 wherein the human subject is known to be, or suspected of, suffering from diabetes mellitus.

40. (Previously presented) The method of claim 39 further comprising determining whether the level of fructosamine oxidase activity in the sample is in a normal range.

41. (New) A method of determining a level of fructosamine oxidase activity in a sample comprising measuring conversion of a substrate to a product catalyzed by a mammalian fructosamine oxidase.

42. (New) A method of determining a level of fructosamine oxidase activity in a sample comprising measuring the conversion of a substrate to a product catalyzed by fructosamine oxidase, wherein the sample is from a human subject.

43. (New) The method of claim 41 or 42 wherein the conversion is measured by determining a level of superoxide reaction product.

44. (New) The method of claim 41 or 42 wherein the conversion is measured by determining a level of oxygen free radical product.

45. (New) The method of claim 41 or 42 wherein a superoxide scavenging mechanism is disabled in said method.

46. (New) The method of claim 45 wherein a superoxide scavenging mechanism is disabled prior to exposure to a substrate.

47. (New) The method of claim 46 wherein the substrate is glycated bovine serum albumin.

48. (New) The method of claim 47 wherein the glycated bovine serum albumin is modified to eliminate copper chelating activity.

49. (New) The method of claim 41 or 42 wherein measurements are made at a pH of from about 7 to about 8.

50. (New) The method of claim 41 or 42 wherein measurements are made at a pH greater than about 7.5.

51. (New) The method of claim 42 wherein the sample is selected from the group consisting of blood, plasma, and serum.

52. (New) The method of claim 42 wherein the human subject is known to be, or suspected of, suffering from diabetes mellitus.

53. (New) The method of claim 52 further comprising determining whether the level of fructosamine oxidase activity in the sample is in a normal range.